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ABSTRACT

The United States Employment Service (USES), in cooperation with State employment services, has conducted a continuing program of occupational test research and development since the mid-1930's. This program has produced a variety of tests and assessment techniques useful in vocational counseling and in selection of individuals for specific jobs. The tests have wide applicability and are used by local offices of State employment services, schools, employment and training organizations, and many foreign countries. The purpose of this series of reports is to provide results of significant test research projects. The following tests and techniques described in detail, have been developed for measurement of occupational aptitude, clerical skills, literacy skills, and occupational interest: (1) General Aptitude Test Battery; (2) Nonreading Aptitude Test Battery; (3) Specific Aptitude Test Batteries; (4) Clerical Skills Tests; (5) Basic Occupational Literacy Test; (6) Pretesting Orientation Techniques; (7) Interest Check List; and (8) USES Interest Inventory. (Author/PN)

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USES Test Research Report No. 32

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U.S. Employment Service
Tests and Assessment Techniques

TM 820 860

U.S. DEPARTMENT OF LABOR
Raymond J. Donovan, Secretary

Employment and Training Administration
Albert Angrisani
Assistant Secretary for Employment and Training
1982

FOREWORD

The United States Employment Service conducts a test research program for developing testing tools useful in vocational counseling and placement.

The purpose of this series of reports is to provide results of significant test research projects as they are completed. These reports will be of interest to users of USES tests and to test research personnel in State agencies and other organizations.

U.S. Employment Service
Tests and Assessment Techniques

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U.S. Employment Service
Tests and Assessment Techniques

The U.S. Employment Service, in cooperation with State employment services, has conducted a continuing program of occupational test research and development since the mid 1930's. This program has produced a variety of tests and assessment techniques useful in vocational counseling and in selection of individuals for specific jobs. The tests have wide applicability and are used by local offices of State employment services, schools, employment and training organizations, and many foreign countries.

The following tests and techniques have been developed for measurement of occupational aptitude, clerical skills, literacy skills, and occupational interest:

General Aptitude Test Battery (GATB) consists of 12 tests measuring 9 vocational aptitudes. It measures the vocational aptitudes of individuals who have basic literacy skills but who need help in choosing an occupation. A Spanish version (BEAG) is available. A special edition of the GATB is available for individual administration to the deaf.

Nonreading Aptitude Test Battery (NATB) consists of 14 tests measuring the same 9 aptitudes measured by the GATB. It was developed for use with individuals who have low levels of literacy skills.

Specific Aptitude Test Batteries (SATB) consist of combinations of two, three, or four GATB aptitudes with associated cutting scores. More than 450 of these have been developed for use in selecting untrained or inexperienced applicants for referral to specific jobs or occupational training.

Clerical Skills Tests measure proficiency in typing, dictation, and spelling to determine level of skills required in clerical jobs.

Basic Occupational Literacy Test (BOLT) consists of four parts: arithmetic computation, arthmetic reasoning, reading vocabulary, and reading comprehension. It measures the literacy skills of educationally deficient applicants and can be related to the literacy requirements of occupations.

Pretesting Orientation Techniques are used in orienting the applicant to the testing situation. The techniques include a booklet "Doing Your Best on Aptitude Tests," available in English and Spanish; a booklet "Doing Your Best on Reading and Arthmetic Tests;" a miniature aptitude test battery "Pretesting Orientation Exercises;" and an illustrated lecture-discussion technique "Pretesting Orientation on the Purpose of Testing," available in English and Spanish.

Interest Check List (ICL) consists of 210 sample tasks representing a broad range of occupational activities. It is used as an interviewing aid to obtain information on the range of an applicant's occupational interests.

USES Interest Inventory consists of 162 job activities, occupational titles and life experience items. It is scored for 12 scales corresponding to the 12 Interest Areas in the USES Guide for Occupational Exploration.

These tests and assessment techniques are described in detail in the following sections:

General Aptitude Test Battery (GATB) and Specific Aptitude Test Batteries (SATB)

Description

The GATB consists of twelve tests measuring nine occupational aptitudes, as follows:

1. General Learning Ability (G) - The ability to "catch on" or understand instructions and underlying principles; the ability to reason and make judgements (measured by Part 3 - Three Dimensional Space; Part 4 - Vocabulary; Part 6 - Arithmetic Reason).

2. Verbal Aptitude (V) - The ability to understand meanings of words and ideas associated with them and the ability to use them effectively. The ability to comprehend language, and to understand relationships between words, and to understand meanings of whole sentences and paragraphs. The ability to present information or ideas clearly (measured by Part 4 - Vocabulary).

3. Numerical Aptitude (N) - Ability to perform arithmetic operations quickly and accurately (measured by Part 2 - Computation; Part 6 - Arithmetic Reason).

4. Spatial Aptitude (S) - Ability to comprehend forms in space and understand relationships of plane and solid objects. Frequently described as the ability to "visualize" objects of two or three dimensions, or think visually of geometric forms (measured by Part 3 - Three Dimensional Space).

5. Form Perception (P) - Ability to perceive pertinent details in objects or in pictorial or graphic material. Ability to make visual comparisons and discriminations and see slight differences in shapes and shadings of figures and widths and lengths of lines (measured by Part 5 - Tool Matching; Part 7 - Form Matching).

6. Clerical Perception (Q) - Ability to perceive pertinent detail in verbal or tabular material. Ability to observe differences in copy, to proof-read words and numbers, and to avoid perceptual errors in arithmetic computation (measured by Part 1 - Name Comparison).

7. Motor Coordination (K) - Ability to coordinate eyes and hands or fingers rapidly and accurately in making precise movements with speed. Ability to make a movement response accurately and swiftly (measured by Part 8 - Mark Making).

8. Finger Dexterity (F) - Ability to move the fingers and manipulate small objects with the fingers rapidly and accurately (measured by Part 11 - Assemble; Part 12 - Disassemble).

9. Manual Dexterity (M) - Ability to move the hands easily and skillfully. Ability to work with the hands in placing and turning motions (measured by Parts 9 - Place; Part 10 - Turn).

Finger dexterity and manual dexterity are measured with the use of apparatus tests, while the other aptitudes are measured by paper-and-pencil tests.

The Manual for the USES General Aptitude Test Battery consists of separately bound sections; they are as follows:

Section I - Administration and Scoring, B-1002 (U.S. Department of Labor, 1982c): Contains procedures for administration and scoring of the twelve tests comprising the GATB and the tables used in converting raw test scores to aptitude scores.

Section II - Occupational Aptitude Pattern Structure (U.S. Department of Labor, 1979c): Contains the GATB Occupational Aptitude Pattern structure used for counseling purposes. Occupational Aptitude Patterns (OAP's) for 62 occupational groups are shown for adults and ninth and tenth graders. The OAP's are combinations of GATB aptitudes and cutting scores, indicating aptitude requirements for Work Groups in the Guide for Occupational Exploration.

Section IIA - Development of the Occupational Aptitude Pattern Structure (U.S. Department of Labor, 1980a): Contains a description of the research done to develop Occupational Aptitude Patterns for Work Groups in the Guide for Occupational Exploration.

Section III - Development (U.S. Department of Labor, 1970): Contains historical information on the development of the GATB; procedures for GATB occupational validation research; information on the effects of age, minority group status, cultural exposure, disabilities, sex and training on aptitude scores; and guidelines for using GATB test results.

Section IV - Specific Aptitude Test Batteries (U.S. Department of Labor, 1980b): Contains the GATB minimum aptitude requirements for specific occupations and includes alphabetical and industrial indexes to the occupations covered.

Development

The original edition of the General Aptitude Test Battery was published in 1947 (Dvorak, 1947). It evolved from the work of the Occupational Research Program in the U.S. Employment Service (Shartle, et al., 1944) and the previous work of the Minnesota Employment Stabilization Research Institute (Paterson and Darley, 1936).

The basic assumption underlying the GATB was that the few basic aptitudes underlying the large variety of tests that had been used by the employment service could be identified through factor analysis and that a large variety of occupations could be clustered into groups according to similarities in the aptitudes required. Use of such a test battery would make it feasible to test a person's important vocational aptitudes in one sitting and to interpret the scores in terms of qualifications for a wide range of occupations.

The nine GATB aptitudes were identified by factor analysis studies of more than 50 tests that the employment service had been using over a period of years. Twelve tests were chosen which provide adequate measures of all nine aptitudes (Staff, Division of Occupational Analysis, 1945). Two criteria were applied in choosing the tests - factorial validity and empirical validity against external criteria. Sometimes the test with the highest factorial validity was disregarded in favor of a test that had acceptable factorial validity but had also repeatedly demonstrated its practical validity against criteria of success for a number of jobs.

To provide a common scale for the nine GATB aptitudes, a general working population sample of workers in a wide variety of occupations was tested with the tests chosen to measure these aptitudes. The data from this sample were used to develop tables for converting raw test scores to standardize scores with a mean of 100 and a standard deviation of 20 for each aptitude of the GATB (Mapou, 1955).

Since its publication in 1947, the GATB has been researched in a continuing program of development and occupational validation. This research has produced over 450 Specific Aptitude Test Batteries (SATBs), consisting of combinations of two, three or four aptitudes with associated cutting scores for specific occupations and a system of

Occupational Aptitude Patterns (OAPs), consisting of combinations of three aptitudes with associated cutting scores for groups of occupations. A description of this research is contained in the Manual for the USES General Aptitude Test Battery, Section IIA, Development of the Occupational Aptitude Pattern Structure.

Because of the possibility that SATBs might be invalid and/or unfair for minority groups, current emphasis is being placed on revalidating existing SATBs using samples which inlcude subgroups of minorities large enough to permit separate statistical analysis. SATBs revalidated with such samples (some three dozen by mid 1982) have demonstrable fairness and validity for minority groups.

Important new research using meta-analysis techniques applied to the complete file of GATB occupational validation studies has resulted in dramatic findings with respect to the dimensionality, validity generalization, fairness and utility of the GATB (Hunter, 1980, 1981 a and b). The results show that the GATB has validity for all 12,000 occupations defined in the DOT, is fair to minorities, and results in substantial savings in money to employers when the tests are used in screening. A pilot study is now underway to demonstrate the usefulness of the new operational testing procedures developed on the basis of the research.

Research has been completed to develop a revised Spanish edition of the GATB (U.S. Department of Labor, 1978). This new edition, the Bateria de Examenes de Aptitud General (BEAG), is designed to have general applicability for use with Spanish-speaking ES applicants, including those in Puerto Rico.

A GATB administration method suitable for deaf examinees has been developed and will be distributed soon. Research will be completed soon on suitable norms for the Manual Dexterity tests when they are administered to persons who must remain seated. This will make the GATB available to persons in wheel chairs and others who can't remain standing for extended periods.

Administration and Scoring

Administration of the entire GATB requires about two and one-quarter hours. All of the paper-and-pencil tests, except Part 8, are arranged in two booklets for which answer sheets are provided. Part 8 is on a separate sheet and no answer sheet is required. Scoring stencils are used for hand scoring. Raw scores are converted to aptitude scores by use of conversion tables. When more than one test is used to provide a measure of a given aptitude, the converted scores for each test are summed to obtain the aptitude score.

Occupational Aptitude Patterns (OAPs) are combinations of GATB aptitudes with associated cutting scores. They indicate the aptitude requirements for groups of occupations. There are 66 OAPs and they cover 97% of all non-supervisory occupations. The OAP-aptitude score matching process, described in detail in the Manual for the USES General Aptitude Test Battery, Section I: Administration and Scoring, is as follows:

> The individual's GATB aptitude scores are compared with the aptitude cutting scores for the OAPs and a letter grade of "H," "M," or "L" is assigned for each OAP. Letter grades are assigned as follows:
>
> If the individual's obtained scores meet or exceed all the cutting scores for a given OAP, he/she achieves a letter grade of "H" for that OAP.
>
> If the individual's scores plus one standard error of measurement (SEM) meet or exceed all the cutting scores, a letter grade of "M" is assigned. (The standard error of measurement of an aptitude is an index of the accuracy or reliability of individual scores on the aptitude. The SEM is expressed in the same units as the aptitude score itself. The SEM varies for the nine aptitudes and differ for the GATB and NATB.)
>
> If the individual's scores plus one standard error of measurement (SEM) do not meet all the cutting scores, a letter grade of "L" is assigned.

There is a nationwide scoring service available when NCS or Intran Corporation answer sheets are used. The service includes converting raw scores to aptitude scores, matching aptitude scores with OAPs, and printing a Test Record Card with the results. Intran Corporation also provides computerized scoring/interpretative reporting for GATB and Interest Inventory in combination.

Specific Aptitude Test Batteries (SATBs) are combinations of two, three, or four aptitudes with associated cutting score. SATBs reflect aptitude requirements for specific occupations against which an individual's aptitude scores can be matched. There are more than 450 SATBs, and the SATB-aptitude score matching process is the same as that for OAPs.

Interpretation

A counselee's performance on the GATB is interpreted in terms of scores (H, M, or L) on OAPs and SATBs. The interpretation of the letter grades is as follows:

H - The individual's scores equal or exceed those of workers judged to be satisfactory in the occupations. If also qualified on the basis of factors other than aptitudes, there is a good probability that he/she will do well on the job.

M - The individual's scores are close to those of workers judged to be satisfactory in the occupations. The chances of doing well on the job are somewhat lower than those of persons in the H category if other factors are equal.

L - The individual's scores are similar to or below those of workers found to be unsatisfactory in the occupations. The chances of being satisfactory on the job are low and he/she should be considered for other jobs which utilize stronger aptitudes.

The OAPs, and the occupations covered by each, are shown in the Manual for USES General Aptitude Test Battery, Section, II: Occupational Aptitude Pattern Structure. The SATBs are shown in Section IV: Specific Aptitude Test Batteries.

Nonreading Aptitude Test Battery

(1982 Edition)

Description

The USES Nonreading Aptitude Test Battery (NATB) was designed to measure the same aptitudes as the USES General Aptitude Test Battery (GATB). The nine aptitudes and the nonreading aptitude tests developed to measure these aptitudes are listed below:

Aptitude	Test
G - General Learning Ability	Test B - Oral Vocabulary Test D - Design Completion Test F - Three-Dimensional Space
V - Verbal Ability	Test B - Oral Vocabulary
N - Numerical Ability	Test B - Oral Vocabulary Test C - Number Comparison Test D - Design Completion
S - Spatial Aptitude	Test F - Three-Dimensional Space
P - Form Perception	Test E - Tool Matching Test G - Form Matching
Q - Clerical Perception	Test C - Number Comparison
K - Motor Coordination	GATB Part 8 - Mark Making
F - Finger Dexterity	GATB Part 11 - Assemble GATB Part 12 - Disassemble
M - Manual Dexterity	GATB Part 9 - Place GATB Part 10 - Turn

The Manual for the USES Nonreading Aptitude Test Battery (U.S. Department of Labor, 1982d) is composed of separately bound sections as follows:

Section 1 - Administration, Scoring and Interpretation:

Contains procedures for administration and scoring of the tests comprising the NATB, tables used in converting raw test scores into aptitude scores, and interpretation of aptitude scores using the Occupational Aptitude Pattern Structure of the GATB and Specific Aptitude Test Batteries (SATBs).

Section 2 - Development:

Contains technical information on the development of the NATB, 1969 and 1982 editions.

The Occupational Aptitude Patterns (OAPs) to be used are those developed for the GATB. Information on OAPs is obtained by reference to the Manual for the USES General Aptitude Test Battery, Section II: Occupational Aptitude Pattern Structure.

Development

The GATB was used as the model for the development of the NATB because (1) the GATB measures the most important vocationally significant aptitudes and (2) the GATB has been validated extensively against occupational criteria. The tests making up the NATB were selected on the basis of multiple correlations with GATB aptitude scores and standardized on the basis of data from disadvantaged groups. A detailed account of the development and standardization of the NATB is presented in the Manual for the USES Nonreading Aptitude Test Battery, Section 2: Development.

The Nonreading Aptitude Test Battery can be said to have only indirect basis of validity. It has not been validated against hard criteria of job and training success of disadvantaged individuals. It derives what validity it has on the basis of its relationship to the GATB, which has been validated extensively against job criteria.

The 1982 edition of the NATB is an improvement over the 1969 edition. Testing time has been decreased substantially and better measures of Verbal Aptitude, Numerical Aptitude, and Clerical Perception have been developed.

Administration and Scoring

The paper-and-pencil tests of the NATB are printed in two booklets. There are no separate answer sheets, and the examinee marks answers in the booklets. Form A is the only form available. Administration time is less than two hours and no more than six may be tested at one time. Directions for administration and scoring the NATB are contained in the Manual for the USES Nonreading Aptitude Test Battery, Section 1: Administration, Scoring and Interpretation.

Interpretation

A counselee's performance on the NATB is interpreted in terms of scores (H, M, or L) on Occupational Aptitude Patterns (OAPs), which are the same as those used for the GATB.

Clerical Skills Tests

Description

The six clerical skills tests measure skills important in a variety of clerical occupations. The skills measured are: typing from plain copy, ability to take dictation, general spelling, statistical typing, medical spelling and legal spelling.

1. The plan copy typing test consists of typing from a typed page containing two letters for five minutes. Either a manual or electric typewriter may be used, as the examinee prefers. The test content is typical of correspondence of a variety of types of employers. Six forms of the Typing Test are available. The test yields separate measures of typing speed (words per minute and decile scores) and typing accuracy expressed as a decile score which compares the examinee to experienced typists. Research is being completed on a

net word per minute scoring system which has greater acceptability among many employers and which is more suitable for Job Bank coding.

2. A transcribing machine operator test consisting of cassette recordings of two forms of the typing test will be distributed to State Job Services soon. This test is suitable both for visually handicapped and normally sighted typists who type primarily from transcribing machines.

3. The dictation test consists of two 200 word letters which are dictated at 60, 80 and 100 words per minute. Content of the letters are typical of correspondence of a variety of employers. Examinees take dictation on stenographic notebooks, in the usual manner, but transcription is accomplished by marking a true-false answer sheet to indicate whether certain words were or were not dictated. Twenty-five minutes are allowed to complete the true-false test. The test may be administered "live" or by standardized recordings. Six forms of the dictation test are available. The test yields an accuracy score expressed as a decile score to indicate how well the examinee was able to correctly identify selected words in the two passages as compared to secretaries and stenographers generally. The number of dictated words per minute at which the examinee took dictation is also reported, although this is not, strictly speaking, a score.

4. The spelling test consists of 90 words, some correctly spelled and some incorrectly spelled. The content is typical of words used in correspondence in a variety of employment situations. There are two forms of the general spelling test. The test yields an accuracy score expressed as a decile score which expresses the examinee's standing relative to a sample of experience secretaries and stenographers.

5. The statistical typing test consists of typing from numerical material in a columnar form for 10 minutes on either a manual or an electric typewriter, as the examinee prefers. There is only one form of this test. The test yields

speed and accuracy scores expressed as a decile score, which allows comparison of the examinee to experienced typists who spend at least 10% of their time typing tabular material.

6. The medical spelling test consists of 40 medical terms which are read aloud by the examiner, using a pronunciation guide, and spelled out by examinees on an answer form. The test yields an accuracy score expressed as a decile, which allows comparison of the examinee to employed workers in the medical clerical field.

7. The legal spelling test consists of 40 legal terms which are read aloud by the examiner, using a pronunciation guide, and spelled out by examinees on an answer form. The test yields an accuracy score, expressed as a decile, which allows comparison of examinee's performance with performance of employed workers in the legal clerical field.

The Manual for USES Clerical Skills Tests (U.S. Department of Labor, 1976) consists of two separately bound sections, as follows:

Section 1: Administration, Scoring and Interpretation:

Contains procedures for administration and scoring of six clerical skills tests and guidelines for interpreting and using the test results.

Section 2: Development: Contains detailed technical information on the development of each of the clerical skills tests.

Development

Earlier versions of the typing and dictation tests were used in the public employment service in the 1930s. The general spelling test was introduced in the early 1940s, the statistical typing test was first used in the mid 1950s, and medical and legal spelling tests were issued in the late 1960s. The first three tests, which are used for testing applicants for general clerical positions, were developed on large samples representative of U.S. clerical workers who perform the tasks measured by the tests. Census data on geographical distribution, age,

education, sex and industry in which employed were used to select these samples. The latter three tests, which measure less usual clerical tasks, were developed on samples of employed workers in appropriate clerical specialties, but the samples are of unknown representativeness because no census data existed for these clerical specialties at the time the tests were developed.

Great care was exercised, however, in the selection of all samples, whether Census data were or were not available. In addition, great care was exercised in selection of material included in these tests to make the tasks as representative as possible of the tasks performed by typists, stenographers, secretaries, etc., throughout the U.S. The tests that did not meet standards for reliability were subsequently eliminated.

One reason for the particular care exercised in selection of represenative test material and samples was that content validation was chosen as the appropriate strategy for assuring the fairness and appropriateness of the tests. Work sample tests such as the clerical skills tests are generally considered the best prospects for content validation. In addition, empirical validation of clerical skills tests is generally not feasible because, although there are millions of typists, stenographers and secretaries in the United States, it is extremely difficult to find a minimum sized sample of workers who perform the same job in the same location.

Administration and Scoring

Instructions for administering and scoring each of the clerical skills tests except the transcribing machine operator test are found in Section 1 of the Manual for USES Clerical Skills Tests. The norm tables for each test are used to convert raw scores to deciles based on representative samples of experienced workers.

Interpretation and Use

Section 1 of the Manual for USES Clerical Skills Tests provides information on use and interpretation. Much of the use for clerical skills tests is self evident; if a clerical job includes the task measured to "a significant extent," the test will be useful in placement in the job.

Judgment enters into use in determining what "a significant extent" really means. If the worker occasionally types up a few index cards or a very rough draft of a letter, the typing test may be unnecessary. If a secretary does mostly typing and administrative duties and takes a few shorthand notes once a month, does he or she have to take the dictation test? This should be discussed at some length with the employer, since he or she might prefer a person who can take no shorthand but who is an able and industrious worker in all other respects.

As stated previously, the norms are based on test performance of experienced workers and a lower grade score is expected for new and inexperienced workers. It may require some persuasive ability to convince an employer that clerical skills develop over time and an entry clerical worker, on the average, will score lower than an experienced worker.

Basic Occupational Literacy Test

Description

The Basic Occupational Literacy Test (BOLT) is a test of basic reading and arithmetic skills for use with educationally disadvantaged adults. Reading skills are assessed by a Reading Vocabulary subtest and a Reading Comprehension subtest. Arithmetic skills are assessed by an Arithmetic Computation subtest and an Arithmetic Reasoning subtest.

BOLT Reading Vocabulary, Reading Comprehension and Arithmetic Computation test forms are available at four levels of difficulty: Advanced, High, Intermediate, Basic Intermediate and Fundamental. BOLT Arithmetic Reasoning test forms are available at three levels of difficulty: Advanced, Intermediate and Fundamental. Alternate forms A, B, and C are available for each subtest at each level of difficulty, except the advanced level for which alternate forms A and B are available.

The content of BOLT items is generally suitable for adults; content pertaining to school, toys, and other children's activities is not used. In general, reading content is similar to that found in newspapers, popular magazines, or non-technical instruction manuals.

The counselor determines the appropriate level of BOLT for each individual to take in each content area by using a combination of Wide Range Scale scores and the individual's reported years of education. The Wide Range Scale consists of eight Vocabulary items and eight Arithmetic items administered to each applicant individually by the counselor.

The Manual for the Basic Occupational Literacy Test (U.S. Department of Labor, 1972) is composed of separately bound sections as follows:

Section 1 - Administration, Scoring and Interpretation:

Contains procedures for administration and scoring of BOLT tests in the four content areas, tables used in converting raw test scores into Standard Scores and General Educational Development (GED) Levels, and interpretation of GED Levels using the GED ratings of occupations.

Section 2 - Development:

Contains technical information on the development of the BOLT.

Development

The BOLT developmental stages consisted of item construction, preparation of administration directions, preliminary tryouts, item analysis, preparation of final test forms, and equating BOLT scores to the General Educational Development (GED) levels defined in the Dictionary of Occupational Titles. A detailed account of the development of the BOLT is presented in the Manual for the USES Basic Occupational Literacy Test, Section 2: Development.

The BOLT norms in use are based on the GED ratings in the Dictionary of Occupational Titles. These are considered interim norms which should eventually be replaced because (1) no direct relationships between occupational success and BOLT scores have been established, and (2) the GED ratings are too broad to make fine distinctions between those who possess and those who lack requisite literacy skills to perform in an occupation.

A criterion-related validation program is now underway, using three different criterion measures on both trainees and employed workers. A content validation program is being designed. Content validation may either supplement criterion-related validation or become the major norm development tool of the BOLT, depending on the relative cost and feasibility of content and criterion-related validation research.

Administration and Scoring

Instructions for scoring each BOLT test by hand and converting the raw scores to standard scores and GED levels are found in Section 1 of the Manual for the Basic Occupational Literacy Test. Answer sheets may also be machine scored. The procedure for sending answer sheets to the scoring center appears in Section 1 of the Manual for the USES Basic Occupational Literacy Test. Results are returned in the form of a Test Record Card showing identification information of the examinee and the test raw scores, standard scores and GED levels.

Interpretation

The BOLT is used when the counselor has reason to doubt that the counselee has sufficient literacy skills to be considered for occupations or occupational training for which the counselee is otherwise qualified. Most of the individuals who are scheduled to take BOLT will be the same individuals who have taken or are scheduled to take the NATB. In addition, anyone who is scheduled to take a Spanish language version of the GATB should ordinarily be given the BOLT to see whether he can be placed in English speaking training or work environment.

BOLT scores are interpreted in terms of grade equivalents and General Educational Development (GED) levels 1-4, as listed in Selected Characteristics of Occupations Defined in the Dictionary of Occupational Titles (U.S. Department of Labor, 1981 (b)).

Occupational Interest Assessment

Two instruments have been developed to tap occupational interests of counselees. The Interest Check List (U.S. Department of Labor, 1979 (b)) is an interviewing aid to obtain information on the range of interests of the counselee. The USES Interest Inventory (U.S. Department of Labor, 1982 (a)) provides scores for 12 broad interest areas. (See below for details of how these instruments fit into an aptitude-interest assessment system.)

Counselee Assessment/Occupational Exploration System

A new Counselee Assessment/Occupational Exploration System has recently been developed by the U.S. Employment Service (U.S. Department of Labor, 1981 (a)).

The Guide for Occupational Exploration (GOE) (U.S. Department of Labor, 1979 (a)) is the central component in this system. It contains an interest and aptitude-oriented occupational classification structure which accommodates all occupations defined in the 4th edition of the Dictionary of Occupational Titles (U.S. Department of Labor, 1977), except those in the military. The GOE can be a very powerful counseling tool, particularly when used with appropriate aptitude and interest assessment techniques which have been related to its occupational structure.

The major assessment components of the Counselee Assessment/Occupational Exploration System developed so far include:

> General Aptitude Test Battery, developed by the U.S. Employment Service and used by State employment services and other organizations for measuring occupational aptitudes of counselees. Aptitude norms have been developed for 59 of the 66 Work Groups of the GOE. These norms are published in Section II of the Manual for the General Aptitude Test Battery.

Interest Check List, an interviewing aid consisting of 210 sample tasks which have been keyed to the Work Groups of the GOE. The Interest Check List and Instructions for Administering and Using the Interest Check List are on public sale by the Superintendent of Documents.

USES Interest Inventory, consisting of 162 job activities, occupational titles and life experience items. The Inventory's 12 scales correspond to the 12 Interest Areas of the GOE.

As indicated previously, the Interest Check List and Interest Inventory are alternative instruments which counselors can use to relate occupational interests to the GOE's occupational structure of Work Groups and Interest Areas, respectively. The item formats of both of these instruments permit exploration of specific likes and dislikes with counselees, leading to a better understanding of the basis for the interest indicated in the item responses. The Interest Check List is on public sale by the Superintendent of Documents; the Interest Inventory is on restricted sale by the Superintendent of Documents and by Intran Corporation, available only to State employment services and organizations which have approval from the State employment service.

Because of the close relationship between the USES Interest Inventory and the Guide for Occupational Exploration, counselors should use these two tools together in helping counselees explore occupations and make vocational choices in line with their occupational interests. The approach is especially helpful with counselees who have no firm stated interests or who are not aware of the variety of occupations that exist. These counselees can be administered the Interest Inventory and guided toward occupational exploration focused on those Interest Areas of the GOE where interests are strongest.

Related Techniques

BOLT Wide Range Scale

This instrument is used as an indicator of appropriate levels of BOLT subtests to administer and as a device to determine whether the GATB or NATB would be more appropriate for a given individual. The Wide Range Scale may be administered individually by the counselor or group administered in the testing unit. The Scale takes about fifteen minutes to administer and is scored separately for Vocabulary and Arithmetic.

Determining appropriate levels of BOLT subtests. Results on the Wide Range Scale are interpreted together with information on claimed years of education and other information obtained in the counseling interview to choose the most appropriate level of the BOLT for the examinee to take. Scores on Wide Range Vocabulary are used in choosing levels of the BOLT Reading Vocabulary and Reading Comprehension test forms, and scores on Wide Range Arithmetic are used in choosing levels of the BOLT Arithmetic Computation and Arithmetic Reasoning.

Determining whether the GATB or NATB would be more appropriate. Multiple cutting scores on Vocabulary and Arithmetic have been established as an aid to determine whether the GATB or NATB should be administered to a given individual. Three State employment services participated in the development of this GATB-NATB screening device. They administered several experimental screening measures to a total of 231 individuals representing a wide range of literacy skills. Analysis of the data indicated that the BOLT Wide Range vocabulary and arithmetic subtests provided the best differentiation between those who do relatively better on the GATB and those who do relatively better on the NATB. Details of the developmental research are reported in Part 2 of the Manual for the GATB-NATB Screening Device (U.S. Department of Labor, 1973).

Pretesting Orientation Techniques

Many disadvantaged individuals are unfamiliar with tests, do not understand the purpose of testing, and fear group testing situations. As a result, some do not show up for scheduled testing and others tend to score lower than they should because of fear or inadequate motivation. Pretesting orientation techniques are needed to minimize these problems and a variety of techniques are required. The three techniques indicated below may be used separately or in combination, depending upon the needs of the applicants.

Doing Your Best on Aptitude Tests. This is a booklet containing an explanation of the purpose of taking reading and arithmetic tests, hints on how to prepare for and take reading and arithmetic tests, and illustrative test items. A Spanish language version is also available. The booklet is intended for individuals who are somewhat disadvantaged but can read well enough to take aptitude tests. The booklet may be given to individuals who are scheduled to take aptitude tests in the local office or it may be placed on a rack for applicants to help themselves.

USES Pretesting Orientation Exercises. The exercises are a miniature test battery administered as a series of short tests whose items resemble the first eight parts of the GATB. The following materials are involved:

Test Booklet for the USES Pretesting Orientation Exercises
Marking Exercise
Manual for the USES Pretesting Orientation Exercises
NCS or Intran Expanded Answer Sheet for GATB, Form A

The Pretesting Orientation Exercises should be administered only by a qualified test administrator. The administration time for all of the exercises is about 1-1/2 hours. The exercises offer practice in test-taking to individuals who possess minimum literacy skills for taking the GATB but who may have little experience with aptitude tests and may be uneasy about being tested. Their use in pretesting orientation sessions will provide disadvantaged applicants scheduled to take the GATB experience in group test-taking in a non-threatening atmosphere. The exercises are flexible enough that they can be shortened for individuals who only need a refresher orientation to tests or they can be presented in full in an intensive orientation program.

Pretesting Orientation on the Purpose of Testing. This is an illustrated lecture-discussion consisting of 23 pictures, available in flipchart or booklet form, and a prepared script explaining each picture. The first 13 points cover the purpose of testing, explain aptitudes and aptitude testing, and describe the relationship between testing and jobs. The final 10 points give specific hints on test taking. The following materials are involved:

Manual for Pretesting Orientation on the Purpose of Testing (available in English and Spanish)
Illustrations for Pretesting Orientation on the Purpose of Testing (Individual Booklets; available in English and Spanish)

Through a step-by-step presentation of elementary testing concepts, Pretesting Orientation on the Purpose of Testing is designed to develop the examinee's understanding of aptitude testing. The presentation is general enough so that applicants scheduled for the NATB or GATB will find it useful. The orientation is designed to be flexible. It may be presented to groups or individuals; the two major parts can be administered separately; it can be shortened or lengthened.

Information about the above pretesting orientation techniques and their availability may be obtained from State employment service offices or from the Division of Testing, Employment and Training Administration, U.S. Department of Labor, Washington, D. C. 20213.

Release of USES Tests to Other Organizations

USES tests are developed primarily for use in the public employment service system. They form an important component in comprehensive employment services provided to both applicants and employers. Although designed primarily to meet the needs of employment service interviewers and counselors for assessment of applicants, these tests are also often useful to counselors in other organizations, rehabilitation agencies, prisons, etc. Some of these tests are on public sale, and others are on restricted sale, which means that orders from the suppliers must be routed through the State employment service for approval.

Because of the usefulness of USES tests to other non-profit organizations, the employment service has developed a procedure for release of USES tests to other agencies, when warranted, for operational use or for research. As an alternative, cooperative arrangements are sometimes made whereby an agency's clients may be referred to the employment service local office for testing. Organizations interested in exploring these possibilities should contact their State employment service.

In some instances, tests are approved for release to foreign users. Interested individuals should contact the Division of Testing, Employment and Training Administration, U. S. Department of Labor, Washington, D. C. 20213.

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